1. BUVERT, V. V.

2. USSR (600)

4. Agriculture

7. Overland transport of timber. Moskva, Goslesbumizdat, 1951.

9. Monthly List of Russian Accessions, Library of Congress, April 1953. Unclassified.

1. BUVERT, V. V., Prof.; IONOV, B. D., Docent; KISHINSKIY, M. I., Docent; SYROMYATNIKOV, S. A., Docent

2. USSR (600)

4. Lumbering

7. New textbook on land transport of timber ("Land transport of timber." Prof. V. V. Buvert, Docent B. D. Ionov, Docent M. I. Kishinskiy, Docent S. A. Syromyatnikov. Reviewed by M. A. Zav' yalov, G. T. Urtaev.) Les. prom., 13, no. 4, 1953.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

BUVERT, V.V.

The Committee on Stalin Prizes (of the Council of Ministers USSR) in the fields of science and inventions announces that the following scientific works, popular scientific books, and textbooks have been submitted for competition for Stalin Prizes for the years 1952 and 1953. (Sovetskaya Kultura, Moscow, No. 22-40, 20 Feb - 3 Apr 1954)

Name	Title of Work	Nominated by
Buvert, V.V. Ionov, B.D. Kishinskiy, M.I.	"Land Transport of Lumber" (textbook)	Moscow Forestry Engineering Institute

SO: W-30604, 7 July 1954

KISHINSKIY, Mikhail Il'ich; BUVERT, V.V., redaktor; KARASIK, N.P., tekhnicheskiy redaktor.

[Using and repairing logging roads] Ekspluatatsiia i remont lesovoznykh dorog. Moskva, Goslesbumizdat. Vol.1 [Dirt, gravel, log and snow-and ice roads] Gruntovye, graviinye, lezhnevye i snezhnoledianye dorogi. 1954. 326 p. (MLRA 8:8)
(Roads)

BUVERT, Viktor Vladimirovich, prof.; IONOV, Boris Dmitriyevich, dotsent, kand.tekhn.nauk; KISHINSKIY, Mikhail Il'ich, dotsent, kand.tekhn. nauk; SYROMYATNIKOV, Sergey Arkad'yevich, dotsent, kand.tekhn. nauk; KORUNOV, M.M., prof., retsenzent; VERIGO, M.F., prof., doktor tekhn.nauk, red.; POLTEVA, B.Kh., red.izd-va; BACHURINA, A.M., tekhn.red.

[Land transportation of timber] Sukhoputnyi transport lesa. Izd.2., perer. Pod obshchei red. M.F.Verigo. Moskva, Goslesbumizdat. Vol.1. 1960. 475 p. (MIRA 14:4)
(Lumber--Transportation)

S/119/60/000/010/001/014
B012/B063

AUTHOR: Buvin, N. P., Engineer

TITLE: Experimental Study of Dynamic Characteristics of Thermal Receivers

PERIODICAL: Priborostroyeniye, 1960, No. 10, pp. 1 - 4

TEXT: The present article gives the results of experimental studies of the dynamic characteristics of mass-produced Soviet thermal receivers which comprise thermoelements, resistance thermometers, and spring thermometers. The experimental arrangement and the experiments are briefly described. The drawing of transfer characteristics of such instruments under different conditions of heat exchange between them and the surrounding medium formed the main part of this work. In this case, the thermal receiver was rapidly dipped into the thermostat and, as a result, the temperature of the medium was gradually changed. The recording accuracy of the transfer characteristics was sufficient for a graphic-analytical evaluation of the experimental curves. The heat emission coefficient (heat emission from the medium to the thermal receiver)

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was measured by means of an electrocalorimeter, and its value was determined from formula (1). It was found on the basis of experimental data that with a constant temperature of the medium a is not influenced by a change of the temperature of the calorimeter surface in the range from 10-50°C. Fig. 1 shows the transfer characteristics obtained. It is pointed out that the Fourier equation of thermal conduction whose general integral (Ref. 1) is written down with formula (2), serves for determining the dynamic characteristics of the thermal receivers studied here. The study of these characteristics indicates that equation (2) may be determined from the experimental transfer characteristics. Formula (5) is deduced for the transmission functions w(p). The dependence of the time constants of the transmission functions (5) on a was obtained by evaluating the experimental transfer characteristics by the method described in Ref. 2. These relations are diagrammatically shown in Figs. 2,3, and 4. On the basis of the study of the equivalent-circuit diagrams, the transmission functions of the instruments described here are divided into three groups (Table). The results obtained were verified, and the calculated transfer characteristics were compared with the experimental ones. The divergence is 2-3%. It is shown that the

equations of the transmission and transfer functions of the instruments described in this paper are simplified with a < 400 kcal/m^2·hr·deg C and a > 2000 kcal/m^2·hr·deg C. The equations of the transmission functions do not change with temperature fluctuations. However, if the temperature of the medium rises, the numerical value of the time constants of the transmission functions decreases due to a change in the thermophysical properties of the material of the instrument. If there are only small temperature fluctuations ($\pm 50^{\circ}C$), the change in the dynamic characteristics may be neglected. It is found that the dynamic characteristics of thermocouples depend on their design, on the hot junctions, on the material, and on the physical properties of the electrode insulation. It is recommended to fix the sensitive elements of new instruments rigidly. There are 4 figures, 1 table, and 3 Soviet references.

26.2195

S/096/60/000/011/006/018
E194/E184

AUTHOR: Buvin, N.P. (Engineer)

TITLE: An Investigation into the Dynamic Properties of Industrial Thermal Transducers

PERIODICAL: Teploenergetika, 1960, No 11, pp 49-54

TEXT: A knowledge of the dynamic characteristics of thermal transducers such as thermocouples or resistance thermometers is necessary to determine the dynamic errors of temperature measurement and also in the design and assessment of automatic control systems. The dynamic characteristic of a thermocouple or similar device is the relationship between the temperature of the sensitive element of the device and the temperature of the medium. This relationship is found most simply for stepwise change in temperature of the medium. Information about the geometry and materials of the thermocouples tested is given in Table 1 and the corresponding data for the platinum resistance thermometers in Table 2. Drawings of the thermocouples are given in Fig 1, of the resistance thermometers in Fig 2, and of a pressure bulb type thermometer in Fig 3. The transient and transfer functions of the devices were determined experimentally in water, oil and salt

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An Investigation into the Dynamic Properties of Industrial Thermal Transducers

baths over a temperature range from 30 to 500 °C with different rates of heat transfer between medium and transducers. Before immersion in the thermostat each transducer was heated in an electric furnace located immediately above the thermostat. The furnace and bath temperatures were different. Eq (3) is then derived for the general form of the transfer function which was used to calculate the transfer functions of the various devices tested. The transient characteristics of the transducers may be very accurately approximated by a sum of two or three exponentials and the transfer functions are obtained in the form of simple expressions. According to the form of the transfer function the transducers tested were classified into three groups. The first of these included thermocouples type ТХК-XIII (TKhK-XIII) and resistance thermometers ЭТП-I (ETP-I), ЭТП-III (ETP-III) and ЭТП-IX (ETP-IX) for which the transfer functions are of the form of expression (4). The second group included thermocouples type ТХК-146 (TKhK-146), ТХК-УХУ (TKhK-U X V) and platinum resistance

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S/096/60/000/011/006/018
E194/E184

An Investigation into the Dynamic Properties of Industrial Thermal Transducers

thermometer type ЭТП-XXII (ETP-XXII) which are inertia transducers having differentiating properties, the transfer functions of the thermocouples being given by expression (6), of the resistance thermometer by expression (8). The third group includes gas manometer thermometers type ТГ-610 (TG-610) for which the transfer function is expression (10). The characteristic curves of the various devices are plotted in Figs 4, 5, 6 and 7 and there is good agreement between the calculated transient curves and the experimental data, the difference being around 2-3%. It was found that the dynamic characteristics of any of the transducers could be determined from single experimental curves at a given oven temperature. Fig 8 shows electrical circuit diagrams, the dynamic characteristics of which are analogous to those of the transducers tested. The transfer functions of the transducers and of the circuits are identical. It is found that the difference between the initial temperature of the transducer and the bath temperature influences the dynamic characteristics

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S/096/60/000/011/006/018
E194/E184

An Investigation into the Dynamic Properties of Industrial Thermal Transducers

because temperature changes alter the thermal conductivity, specific heat and specific gravity of the materials from which the transducers are made. The formulae and equations for the characteristic curves that are given are recommended for practical use in designing automatic control systems or in calculating dynamic errors of temperature measurement. The investigation of dynamic properties should also be useful in the design of new transducers of improved dynamic characteristics. The dynamic characteristics may be improved by reducing the specific heat and thermal resistance of the transducers. In designing new transducers it is particularly important to fix the sensitive element firmly and to reduce as far as possible the gaps in the devices and the dimensions of the protective cases.
There are 8 figures, 2 tables and 4 Soviet references.

ASSOCIATION: Moskovskiy energeticheskiy institut
(Moscow Power Institute)

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33028 R
S/096/60/000/011/006/018
E194/E384

24.5500

AUTHOR: Buvin, N.P., Engineer

TITLE: An Investigation into the Dynamic Properties of Industrial Thermal Transducers

PERIODICAL: Teploenergetika, 1960, No. 11, pp. 49 - 54

TEXT: A knowledge of the dynamic characteristics of thermal transducers such as thermocouples or resistance thermometers is necessary to determine the dynamic errors of temperature measurement and the design and assessment of automatic-control systems. The dynamic characteristic of a thermocouple or similar device is the relationship between the temperature of the sensitive element of the device and the temperature of the medium. This relationship is found most simply for step-wise change in temperature of the medium. Fig. 1 shows the operative parts of the thermocouples, the sketches being from left to right - a) type ТХК-XIII (TKhK-XIII); б) type ТХК-146 (TKhK-146) (with sheath made of steel 1Х18Н9Т (1Kh18N9T) and porcelain bead insulation; в) type ТХК-ХХV (TKhK-UKhV) (sheath and tip made of

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steel 2X13 (2Kh13), insulation - a porcelain tube). The lengths of the four thermocouples tested, in mm, are given between diagrams a) and б). In Fig. 1B the wire diameter is 1.2 mm. Fig. 2 shows the operative parts of the platinum resistance thermometers. Fig. 2a shows type ЭТП-I (ETP-I), ЭТП-III (ETP-III) and ЭТП-IX (ETP-IX) - the insert is of aluminium and the sensitive element is a platinum wire wound on mica. Fig. 2б shows type ЭТП-XXII (ETP-XXII) - the sensitive element is made of platinum wire wound on mica. Fig. 3 shows a pressure bulb thermometer, type ТГ-610 (TG-610), with a bulb of chromium-plated steel. The transient and transfer functions of the devices were determined experimentally in water, oil and salt baths over a temperature range from 30 to 500 °C with different rates of heat transfer between medium and heat-sensitive element. Before immersion in the thermostat each element was heated in an electric furnace located immediately above the thermostat; the furnace and bath temperatures were different. The transfer function is then derived in the general form:

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$$W_{(p)} = \frac{(T_{n+1}p + 1)(T_{n+2}p + 1)\ldots(T_{n+m}p + 1)}{(T_1p + 1)(T_2p + 1)\ldots(T_np + 1)} \qquad (3)$$

This formula is used to calculate the transfer function of the various devices tested. The transient characteristics of the transducers may be very accurately approximated by a sum of two or three exponentials, and the transfer functions are obtained in the form of simple expressions. According to the form of the transfer function the heat-sensitive elements tested were classified into three groups. The first of these included thermocouples type TKhK-XIII and resistance thermometers ETP-I, ETP-III and ETP-IX, for which the transfer functions are of the following form:

$$W(p) = \frac{1}{(T_1p + 1)(T_2p + 1)(T_3p + 1)} \qquad (4)$$

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and the transient characteristics are the sum of three exponentials

$$D_1 = \frac{T_1^2}{(T_1-T_2)(T_1-T_3)} e^{-\frac{\tau}{T_1}} + \frac{T_2^2}{(T_2-T_3)(T_2-T_1)} e^{-\frac{\tau}{T_2}} + \frac{T_3^2}{(T_3-T_1)(T_3-T_2)} e^{-\frac{\tau}{T_3}}. \quad (5)$$

The second group included thermocouples type TKhK-146, TKhK-UKhV and platinum resistance thermometer type ETP-XXII, which are inertia elements having differentiating properties, the transfer functions of the thermocouples being given by the following expression:

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$$W(p) = \frac{T_3 p + 1}{(T_1 p + 1)(T_2 p + 1)} \quad (6),$$

both transient characteristics calculated according to

(7) .

$$D_\tau = \frac{T_1 - T_3}{T_1 - T_2} e^{-\frac{\tau}{T_1}} - \frac{T_2 - T_3}{T_1 - T_2} e^{-\frac{\tau}{T_2}}.$$

The transfer function of the resistance thermometer is given by the following expression

(8)

$$W(p) = \frac{T_4 p + 1}{(T_1 p + 1)(T_2 p + 1)(T_3 p + 1)}.$$

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and the transient characteristic is given approximately by

$$D_\tau = \frac{T_1(T_1-T_4)}{(T_1-T_2)(T_1-T_3)} e^{-\frac{\tau}{T_1}} + \frac{T_2(T_2-T_4)}{(T_2-T_1)(T_2-T_3)} e^{-\frac{\tau}{T_2}} + \frac{T_3(T_3-T_4)}{(T_3-T_1)(T_3-T_2)} e^{-\frac{\tau}{T_3}}. \quad (9)$$

Characteristic curves of the various devices are then plotted: Fig. 4 corresponds to thermocouple type TKhK-XIII in a medium at a temperature of 100 °C (the points correspond to data obtained at the temperatures indicated); Fig. 5 corresponds to the platinum resistance thermometers, the first curve for type ETP-1 with a medium temperature of 100 °C, the second to type ETP-III with a medium temperature of 200 °C, the third

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E194/E384

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to type ETP-IX with a medium temperature of 450 °C and the fourth to type ETP-XXII with a medium temperature of 100 °C; Fig. 6 corresponds to the case where there is good thermal contact between the sheath and the hot junction; the experimental points were obtained at temperatures of 50-100 °C; the lefthand curve corresponding to thermocouple type TKhK-146 and the righthand to TKhK-UKhV; Fig. 7 corresponds to the pressure bulb thermometer ТГ-610 (TG-610) for a medium temperature of 150 °C. There is good agreement between the calculated transient curves and the experimental data, the difference being around 2-3%. It was found that the dynamic characteristics of any of the elements could be determined from single experimental curves at a given oven temperature. It is found that the difference between the initial temperature of the sensitive element and the bath temperature influences the dynamic characteristics because temperature changes alter the thermal conductivity, specific heat and specific gravity of the materials from which the transducers are made. The formulae and equations for the characteristic curves that are

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E194/E384

An Investigation into ....

given are recommended for practical use in designing automatic-control systems or in calculating dynamic errors of temperature measurement. The investigation of dynamic properties should also be useful in the design of new transducers of improved dynamic characteristics. The dynamic characteristics may be improved by reducing the specific heat and thermal resistance of the transducers. In designing new transducers it is particularly important to fix the sensitive element firmly and to reduce as far as possible the gaps in the devices and the dimensions of the protective cases. There are 8 figures, 2 tables and 4 Soviet references.

ASSOCIATION: Moskovskiy energeticheskiy institut (Moscow Power Engineering Institute)

Card 8/8

ACCESSION NR: AP4042864 S/0114/64/000/007/0038/0041

AUTHOR: Preobrazhenskiy, V. P. (Candidate of technical sciences); Buvin, N. P. (Candidate of technical sciences); Pinskiy, F. I. (Engineer); Solon'ko, L. G. (Engineer); Chistyakov, V. S. (Engineer)

TITLE: Measuring temperatures of a pulsating gas stream

SOURCE: Energomashinostroyeniye, no. 7, 1964, 38-41

TOPIC TAGS: gas stream, pulsating gas stream, pulsating gas stream temperature, diesel engine

ABSTRACT: A method for measuring variable temperatures by a low-inertia temperature sensor (resistance thermometer) whose readings are interpreted by a computer on the basis of known dynamic characteristics of the sensor is offered. The temperature of the sensor is connected with that of the gas stream by this equation: $T\frac{dt_t}{d\tau}+t_t=t_n$, where t_n and t_t are the temperatures of the gas stream and the sensor, respectively, T is the sensor time constant, and τ is time. The method was used at Kolomna Diesel-Locomotive-Building Plant for

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ACCESSION NR: AP4042864

measuring temperatures of YaAZ-204-diesel-engine exhaust gases; a sensor with 0.03—0.05-mm-diameter, 5—9-mm-long Pt wire was employed. The error involved is claimed to be 2—3C with the measurand temperature within 600—750C. The difficulty in assessing possible additional errors is held as the main drawback of the method; in high-speed gas streams, the sensor will measure the impact temperature rather than the thermodynamic temperature; in a pulsating-speed variable-temperature stream, an additional error may arise due to a variation in the time constant of the sensor. (V. A. Tomel'gas, V. I. Spiridonov, and A. I. Ryabitsev took part in this work.) Orig. art. has: 4 figures and 12 formulas.

ASSOCIATION: Moskovskiy energeticheskiy institut (Moscow Power-Engineering Institute)

SUBMITTED: 00 ENCL: 00

SUB CODE: PR NO REF SOV: 009 OTHER: 001

Card 2/2

BUXBAUM, Harry; SIROKY, Hugo

Psychodrama. Methodological and theoretical considerations. Cesk. psychiat.56 no.5:343-349 O'60.

1. Psychiatricka lecebna v Opave.
(PSYCHODRAMA)

STROSSOVA, I.; BUXBAUM, H.

Mental-hygienic importance of group conversations with mentally healthy people. Activ. nerv. sup. 6 no.1: 103 '64

*

BUXBAUM, Karel, inz. (Praha)

Production, operation and design of luminous tube equipment.
Elektrotechnik 17 no.6:162-165 Je '62.

BUXBAUM, Karel, inz.

Transformers with auxiliary winding. El tech obzor 51 no.8:407-410 Ag '62.

BUXBAUM, Karel, inz. (Praha)

Designing, production and operation of luminous tube equipment. Elektrotechnik 17 no.5:136-140 My '62.

BUXBAUM, Karel, inz.

Gas filling, conditioning and service life of discharge tubes.
El tech obzor 52 no.12:648-653 D '63.

L 47237-66 EWP(j) RM

ACC NR: AP6034306 SOURCE CODE: HU/0005/66/000/006/0260/0267

AUTHOR: Koros, Endre; Orban, Miklos; Ladanyi, Laszlo; Buxbaum, Piroska 35 B

ORG: Department of Inorganic and Analytical Chemistry, Eotvos Lorand University, Budapest (Eotvos Lorand Tudomanyegyetem, Szervetlen- es Analitikai-Kemiai Tanszek)

TITLE: Solvent effects in isotope exchange reactions. 19 VI. Effect of aza-aromatics on the rate of iodine exchange between elementary iodine and 1-phenyl-2,3-dimethyl-4-iodopyrazolone

SOURCE: Magyar kemiai folyoirat, no. 6, 1966, 260-267

TOPIC TAGS: activation energy, iodated organic compound

ABSTRACT: [Authors' English summary modified] The influence of some aza-aromatics (pyridine, α-picoline, gamma-collidine, quinoline, isoquinoline) on the iodine exchange was investigated in benzene, chloroform and ethanol. A linear relationship could be established between the rate-inhibiting effect -characterized by the "retardation" coefficient- and the stability of the iodine-aza-aromatic donor-acceptor complex. The kinetics of the reaction were measured in benzene which contained pyridine. The enthalpy entropy and the free energy of activation were calculated and the thermodynamic data were analyzed. Orig. art. has: 9 figures, 25 formulas and 10 tables. [JPRS: 36,862]

SUB CODE: 07 / SUBM DATE: 20Sep65 / ORIG REF: 005 / OTH REF: 009

Card 1/1 hs

L 45276-66 EWT(m)/T/EWP(j) IJP(c) WW/RM

ACC NR: AP6023392 SOURCE CODE: UR/0374/66/000/003/0330/0336

AUTHOR: Buyanov, G. I.; Kasyuk, V. D.; Malinin, N. I.; Panshin, B. I.

ORG: none

46
45
B

TITLE: The creep of polymer materials subjected to cyclic loads

SOURCE: Mekhanika polimerov, no. 3, 1966, 330-336

TOPIC TAGS: creep, thermoplastic material, polymer

ABSTRACT: A method for constructing the creep curve of one-dimensional polymer material subjected to periodically applied alternating stresses is proposed. The creep curves obtained by tests under constant loads were used as basis for calculation. The mathematically derived curves agree within 10% with the experimental results, thus proving the applicability of the nonlinear heredity theory (viscoelasticity) expressed by M. I. Rozovskiy's equation. Experimental examination has shown that the proposed method may be used with sufficient accuracy for

Card 1/2 UDC: 678.744.325:539.388.1

LUK'YANOV, V.L., deputat Verkhovnogo Soveta SSSR, master bloka martenovskikh pechey; GOLIKOV, I.N.; BUY, B.I.; LEPORSKIY, V.V.; SOPOV, T., Geroy Sotsialisticheskogo Truda, val'tsovshchik; MANTSEV, R.M.; CHERNOV, V.D., stalevar

We are carrying out the decisions of the 22d Congress of the Communist Party of the Soviet Union. Metallurg 7 no.7:2-6 Jl '62. (MIRA 15:7)

1. Nichne-Tagil'skiy metallurgicheskiy kombinat (for Luk'yanov). 2. Direktor TSentral'nogo nauchno-issledovatel'skogo instituta chernoy metallurgii (for Golikov). 3. Sekretar' partiynogo komiteta Makeyevskogo metallurgicheskogo zavoda (for Buy). 4. Direktor zavoda "Azovstal'" (for Leporskiy). 5. Magnitogorskiy metallurgicheskiy kombinat (for Sopov). 6. Direktor Gosudarstvennogo soyuznogo instituta po proyektirovaniyu agregatov staleliteynogo i prokatnogo proizvodstva dlya chernoy metallurgii (for Mantsev). 7. Chelyabinskiy metallurgicheskiy zavod (for Chernov). (Metallurgy)

SERBINOVA, N.I.; Prinimali uchastiye: LESHCHINSKAYA, I.B., diplomant; BUH, T.T., diplomant; MAKSIMOVA, I.B., laborant.

Conditions of fermentation and the selection of pure yeast cultures for semisweet table wines. Trudy VNIIViV "Magarach" 9:83-95 '60. (MIRA 13:11)

(Wine and wine making) (Yeast)

FEDOROVA, N.Ya.; BUY, T.T.; PISARCHUK, Ye.N.

Biosynthesis of chlortetracycline and vitamin B_{12} A.aureofaciens. Ferm. i spirt.prom. 30 no.4:45-47 '64. (MIRA 18:12)

1. Ukrainskiy nauchno-issledovatel'skiy institut spirtovoy i likero-vodochnoy promyshlennosti.

BUY, [illegible]

Processing of stone for building materials. Sbor. LIIZhT no.157: [illegible]-57 '57. (MIRA [illegible])

(Building stones)

BUY, V.I., inzh.

Influence of a limestone aggregate upon the strength and deformability of concrete. Sbor.trud. LIIZHT no.181:24-33 '62. (MIRA 16:9)

BUY, V.I., inzh.

The effect of the quality of crushed limestone upon the strength of concrete. Trudy BIIZHT No.10:25-36 '61.

Washing and hydraulic sorting of sand under laboratory conditions. (MIRA 16:9)
37-46

BABETSKI, S.Ya.; BUYA, Z.A.; GRIGOROV, N.L.; LOSKEVICH, Ye.S.; MASSAL'SKI, Ye.I.; OLES', A.A.; SHESTOPEROV, V.Ya.

Studying large ionization bursts caused by cosmic-ray particles at se level. Zhur. eksp. i teor. fiz. 40 no.6:1551-1561 Je '61. (MIRA 14:8)

1. Institut yadernoy fiziki Moskovskogo gosudarstvennogo universiteta.

(Ionization chambers)
(Cosmic rays)

BUYA, Z. A., MASSALSKIY, YE. I., TRETYAKOVA, S. A., SHESTOPEROV, V. YA.,

BABAYAN, KH. P., Grigorov, N. L., Rayadjan, N. Y., Babczki, V. S.,

Loskevicz, J., Dles, A., Murzin, V. S.

"Mountain-Altitude Studies of the Interaction of High-Energy Particles with Atomic Nuclei."

report submitted for the Intl. Conf. on Cosmic Rays and Earth Storm (IUPAP) Kyoto, Japan 4-15 Sept. 1961.

25181
S/056/61/040/006/002/031
B102/B214

3.2410

AUTHORS: Babetskiy, S. Ya., Buya, Z. A., Grigorov, N. L., Loskevich, Ye. S., Massal'ski, Ye. I., Oles', A. A., Shestoperov, V. Ya.

TITLE: Investigation of large ionization bursts caused by cosmic ray particles at sea level

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 40, no. 6, 1961, 1551 - 1561

TEXT: The authors investigated particle interactions for energies of 10^{12}-10^{13}ev using photoemulsions. The reports on the measurements are presented in this paper. The experimental arrangement consisted of 128 ionization chambers (total area 10 m^2), which together with a combined lead graphite filter formed a so-called ionization calorimeter which also made the determination of shower coordinates possible. This apparatus was set up on Mount Aragats at a height of 3200 m (a simpler variety of this device was used in Moscow earlier, 50 m above sea level). Fig. 1 shows the arrangement of the layers and cylindrical ionization chambers (I-IV) above and below the graphite layer (density 60 g/cm^2). The apparatus was placed in a special

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building and covered on the top by light materials only (2 g/cm^2). All the amplifiers were calibrated by radiotechnical means twice a day. The amplification factor was found in general not to vary more than 2 - 3 % in the course of a day. During the first half period of the measurements in series I of chambers the frequency of the bursts of a size of J_1 = 1200 relativistic particles was $(1.27 \pm 0.03) \cdot 10^{-1}$/hr·m^2; in the second half period it was $(1.25 \pm 0.03) \cdot 10^{-1}$/hr·m^2. Measurements carried out for 2640 hours with the chambers placed below the graphite layer showed that the electron and photon showers recorded were produced inside the apparatus. The intensity ratio for the two series for a shower with particles numbering $(1.2 - 2.4) \cdot 10^3$ was $\overline{(J_1/J_2)} = 1.5 \pm 0.1$; for showers with number of particles $>1.2 \cdot 10^4$ this ratio was 3.4 ± 0.8. These showers could have been produced in the apparatus by the interaction of the high energy particles of nuclear kind in the graphite, or by the electromagnetic interaction of high energy muons in the filter. The spectrum of the ionization bursts was determined from the total ionization recorded in all the chambers (for the bursts considered) separately for the first and the second series. If the observed distribu-

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tion is represented in the form of an exponential law $N(\geq J) = AJ^{-\gamma}$, for the first series is 1.71 ± 0.04 and for the second 2.00 ± 0.04. These results agree well with those of other authors. Part of the showers were distinguished by a strong nonmonotonous ionization distribution in the series I and II (ionization in the individual chambers, very weak or no ionization in the neighboring chambers). These were designated as "structural" bursts. Numerical data on these are given in Table 1. The average distance l between the chambers, recording maximum ionization, were also determined for this kind of bursts. The results are given in Table 2. The spectrum of these bursts may be represented by $N(\geq J) = BJ^{-\gamma}$, where $\gamma = 1.96 \pm 0.03$. The results are discussed in the following, and an attempt has been made to determine the course of the bursts in altitude by theoretical considerations. This is done under special assumptions about the properties of the participating pions and the spectrum of the primary particles. The nature of large ionization bursts is also discussed. The authors thank Diploma Student V. Trush for collaboration. Ye. A. Murzina, S. I. Nikol'skiy, and V. I. Yakovlev are mentioned. There are 4 figures, 2 tabels and 12 references: 11 Soviet-bloc and 1 non-Soviet-bloc.

Card 3/6

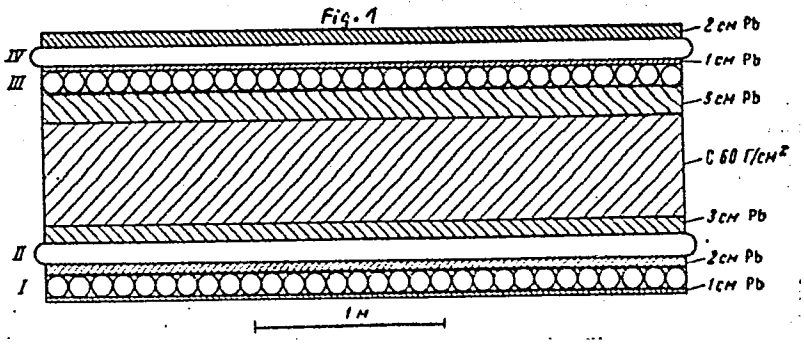
25181
S/056/61/040/006/002/031
B102/B214

Investigation of ...

ASSOCIATION: Institut yadernoy fiziki Moskovskogo gosudarstvennogo universiteta (Institute of Nuclear Physics of Moscow State University)

SUBMITTED: December 20, 1960

Fig. 1



Card 4/6

26407
S/056/61/041/001/002/021
B102/B212

3,2410 also 2412

AUTHORS: Babetski, Ya. S., Buya, Z. A., Grigorov, N. L., Loskevich, Ye. S., Massal'ski, Ye. I., Oles', A. A., Shestoperov, V. Ya., Fisher, S.

TITLE: Nuclear-active particles in atmospheric showers

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 41, no. 1 (7), 1961, 13 - 21

TEXT: The aim of the present paper has been to contribute to the clarification of the characteristics of elementary processes underlying the formation of an extensive air shower and also of the role played by the nuclear-active component in shower formation. A number of shower parameters have been determined (the energy $E_{e\text{-}ph}$ of the electron-photon component, the energy transferred by π^0 mesons, and the ionizations I in the chamber rows) by employing an arrangement which has been described earlier by the authors (Ref. 4: ZhETF, 40, 1551, 1961). It consists of 128 ionization chambers (active area, 10 m^2). [Abstracter's note: In order to follow the

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Nuclear-active particles in...

statements, a knowledge of Ref. 4 is required.] The measurements were made at sea level for both extensive and "young" atmospheric showers. Of all extensive atmospheric showers recorded, those with $J_{3,4} \geq 1.2 \cdot 10^4$ relativistic particles (i. e., $E_{e\text{-}ph} \geq 2 \cdot 10^{12}$ ev) have been selected. 284 such showers had been found after 1842 hours of measuring. (The ionization chambers were arranged in four rows; $E_{\pi^0}/E_{e\text{-}ph} = J_{1,2}/J_{3,4}$ could be set in good approximation). A determination of the position of the axes of these extensive atmospheric showers showed that in about half of all cases the shower axis hit the instrument and in all other cases the axis was found nearby. It can thus be assumed that the mean value $E_{\pi^0}/E_{e\text{-}ph}$ measured refers to the central region of the shower. The selected showers with $J_{3,4} \geq 1.2 \cdot 10^4$ had a number of particles amounting to $\geq 10^5$, and $(J_{1,2}/J_{3,4} = 0.130 \pm 0.047$ was obtained for them. For showers whose axes did hit the measuring arrangement this ratio was equal to 0.128 ± 0.036. Assuming that the ionization by nuclear-active particles was not a function of the location of the chamber in the arrangement, then it follows that the

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Nuclear-active particles in...

electron-photon component in row I increases the ionization by 30±7.5%. From this it follows that $(E_{\pi^0}/E_{e\text{-}ph}) = 0.091 \pm 0.031$; if the angular distribution in an extensive atmospheric shower is taken into account, one obtains 0.097 ± 0.036. Table 2 shows the ionization ratios for various shower groups. Special investigations which have been made for "young" atmospheric showers (1900 hours, 52 "young" atmospheric showers with $J_{3,4} \geqslant 1.2 \cdot 10^4$ relativistic particles) yielded the following results: The intensity of these showers "young" atmospheric showers was equal to $0.95 \pm 0.13) \cdot 10^{-10}$ cm^{-2} sec^{-1}, and the energy of the electron-photon component was not less than 2.10^{12} ev. The ionization in the third chamber row was always 1.5 - 2 times higher than that in the fourth row. The intensity of individual showers ($J_2 \geqq 1.2 \cdot 10^4$) measured in the second row was equal to 2.10^{-11} cm^{-2} sec^{-1}. The J_3 or $E_{e\text{-}ph}$ distribution of the "young" showers can be described by $N(\geqq J_3) = AJ_3^{-\gamma}$, where $\gamma = 1.5 \pm 0.4$. Some cases have been found with $E_{e\text{-}ph} \geqq 10^{13}$ ev. These "young" showers

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proved to be starts of extensive atmospheric showers with $N \sim 10^4$ at most. For these 52 "young" atmospheric showers a value of $(J_{1,2}/J_3) = 0.11 \pm 0.03$ has been found, i. e., it was nearly equal to that of extensive atmospheric with $J_3 \geq 1.2 \cdot 10^4$. An estimation of the ratio of the energy of nuclear-active particles to the energy of the electron-photon component furnishes a value that is 2.5 - 2 times smaller than that found earlier (by assuming an inelasticity coefficient K of 0.5; cf. ZhETF, 36, 75[illegible], 1959). Therefore, it has to be assumed that $K \gtrsim 0.75 - 0.6$. Furthermore, it has been found that near the axes of extensive atmospheric showers the energy of nuclear-active particles is less than 50 % of the energy of the electron-component ($E_{n.a.}/E_{e-ph} = 0.40 \pm 0.14$), and that in about 30 % of all "young" atmospheric showers the nuclear-active component is practically absent. There are 5 figures, 2 tables, and 6 Soviet-bloc references.

ASSOCIATION: Institut yadernoy fiziki Moskovskogo gosudarstvennogo universiteta (Institute of Nuclear Physics of Moscow State University)

Card 4/5

S/048/62/026/005/002/022
B102/B104

3.2410 (2205, 2705, 2805)

AUTHORS: Babayan, Kh. P., Babetski, Ya. S., Boyadzhyan, N. G., Buya, Z. A., Grigorov, N. L., Loskevich, Ye. S., Mamidzhanyan, E. A., Massal'skiy, Ye. I., Oles', A. A., Tret'yakova, Ch. A., and Shestoperov, V. Ya.

TITLE: Investigation of the interaction of high-energy particles with atomic nuclei on mountains

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 26, no. 5, 1962, 558 - 571

TEXT: Ionization bursts caused by the electron-photon component of a shower of cosmic-ray particles were studied with an array of ionization chambers (Fig. 1) at the mountain station (3200 m) of the Akademiya nauk Armyanskoy SSR (Academy of Sciences Armyanskaya SSR). The array consisted of six rows of ionization chambers separated by layers of lead and graphite, and covered an area of 10 m^2. Owing to this large area, heavy bursts with a total energy of locally generated π^0 mesons amounting to $\sim 10^{13}$ ev could be photographed. The data obtained were analyzed for

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Investigation of the...

ionization bursts in the filter of the arrangement, for the altitude dependence of the burst frequency, and for the burst spectrum and its dependence on the size of the arrangement; the mechanism of local π^0 generation by single nuclear-active particles was investigated. The bursts observed were grouped according to their intensity I, i.e., according to the number of relativistic particles involved; for each group, the numbers of ionization and "structuralized" bursts were determined for rows I-IV. The spectrum of ionization bursts can be described by $N(>I) = AI^{-\gamma}$ for all chambers. The index of the integral spectrum for $2 \cdot 10^3 \leq I \leq 2 \cdot 10^5$ equals 1.37 ± 0.02. With an area of ~ 0.6 m^2 it was found that $\sim$20% of the bursts were "structuralized" for $1 \cdot 10^3 \leq I \leq 5 \cdot 10^3$. At $I > 1 \cdot 10^4$ and 10 m^2 50% of the bursts (at sea level) and 75% (on the mountains) have a structure. An analysis of the course of the bursts with the altitude has shown that: (1) the integral spectrum of muon-induced bursts with $3 \cdot 10^3$ - $3 \cdot 10^4$ particles has an exponent of $\gamma = 2.22 \pm 0.14$; (2) for a burst of equal intensity, induced by a single nuclear-active particle, $\gamma = 1.98 \pm 0.09$; (3) at 3200 m, the muon contribution to single heavy bursts is small (15% of all bursts with $\sim 10^3$ particles, and $\sim$4% of those with $\sim 2 \cdot 10^4$ particles;

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Investigation of the...

(4) at sea level, the muon contribution is ~70% (~10^3 particles) and ~50% (~$2 \cdot 10^4$ particles). The burst spectrum was found to depend greatly on the area of the measuring arrangement. With $2 \cdot 10^3$ - $2 \cdot 10^5$ particles, γ goes over from 1.37 ± 0.02 for $(330\ cm)^2$ to 1.99 ± 0.05 for $10 \cdot 330\ cm^2$. The spectrum of bursts with a π^0 energy transfer of $3 \cdot 10^{11}$ - 10^{13} ev agrees with that of nuclear-active particles, and exhibits no "breaks". When particles with $E > 10^{12}$ ev interact with light nuclei in about 10% of the events, the interaction is completely inelastic, and the π^0 energy transfer amounts to 60 - 80% of the primary-particle energy. Such interactions obviously play a significant role in the formation of extensive air showers with at least 10^4 - 10^5 particles. There are 8 figures and 7 tables.

Card 3/4

BABIY, Ye.; ZYUBIN, S.; ANTYUKHOV, A.; KAMCHATOV, K.; DOLGOVA, L.; KASTORNOV, M., mekhanik; GOL'TSEV, M.; KUZ'MIN, I., mekhanik; PAVLOV, N., mashinist kombayna; SMETANKIN, P., mashinist kombayna; SAFONOV, M., mashinist kombayna; KOZLOV, N., brigadir gornorabochikh; BUYAK, I., brigadir gornorabochikh; SOLDATOV, N., brigadir gornorabochikh.

Not into the records but into practice. Sov.shakht. 12 no.12:17-18 D '63. (MIRA 17:3)

1. Shakhtoupravleniye No.3-25 tresta Donskoyugol' kombinata Tulaugol'. 2. Nachal'nik shakhtoupravleniya No.3-25 tresta Donskoyugol' kombinata Tulaugol' (for Babiy). 3. Sekretar'partorganizatsii shakhtoupravleniya No.3-25 tresta Donskoyugol' kombinata Tulaugol' (for Zyubin). 4. Glavnyy inzh. shakhtoupravleniya No.3-25 tresta Donskoyugol' kombinata Tulaugol' (for Kamchatov). 5. Sekretar' komsomol'skoy organizatsii shakhtoupravleniya No.3-25 tresta Donskoyugol' kombinata Tulaugol' (for Dolgova).

BUYAKAS, I. I.

BUYAKAS, I.I., dotsent

175th anniversary of the Department of Medicine of the V.Kapsukas University in Vilnius. Gig. i san. 22 no.9:46-52 S '57.
(MIRA 10:12)

1. Iz kafedry gigiyeny meditsinskogo fakul'teta Vil'nyusskogo universiteta imeni V.Kapsukasa.
(SCHOOLS, MEDICAL, hist.
at V.Kapsukas University in Vilna)

BUYAKAS, I.I., dotsent; BITE, A.P.

Work of the Lithuanian branch of the All-Union Society of Hygienists in 1959. Gig.i san. 25 no.11:95-96 N '60. (MIRA 14:1)
(LITHUANIA—PUBLIC HEALTH SOCIETIES)

BUYAKAS, I.I., dotsent

Readers' conference of the Lithuanian Republic section of the All-Union Society of Hygienists and Sanitary Physicians. Gig. i san. 26 no.5:114-115 My '61. (MIRA 15:4)
(PUBLIC HEALTH—PERIODICALS)

BUYAKAS, I.I., dotsent; BITE, A.P. (Vil'nyus)

Work of the Lithuanian Republic section of the All-Union Society of hygienists and Sanitary Physicians in 1960. Gig. i san. 26 no.6:111-112 Je '61. (MIRA 15:5)
(LITHUANIA--PUBLIC HEALTH SOCIETIES)

ACC NR: AP7004241 SOURCE CODE: UR/0103/67/000/001/0034/0045

AUTHOR: Buyakas, V. I. (Moscow); Kulibanov, V. N. (Moscow)

ORG: none

TITLE: Problem of optimization of final state in controlled plants

SOURCE: Avtomatika i telemekhanika, no. 1, 1967, 34-45

TOPIC TAGS: automatic control system, automatic control R and D, automatic control theory

ABSTRACT: A plant describable by: $dx/dt = Ax + bu$ is considered; here x is the n-dimensional vector function of phase coordinates, u is the scalar control, A is a constant $n \times n_1$ matrix, and b is a constant n-dimensional vector. The following problem is solved: among all permissible controls, find an optimal control (as a function of phase coordinates and time) which moves an arbitrary initial point $x(0)$, in a fixed time T, to a final state $x(T)$ such that the function $\varphi[x(T)]$ is minimized. Here, $\varphi(x)$ is a single-valued positive definite function satisfying these conditions: $\varphi(x) = 0$ only if $x = 0$; $\varphi(x) = c_1$ is a closed single surface located inside $\varphi(x) = c_2$ if $c_2 > c_1$. Even in simplest cases, the optimal control of the form $u(x)$ does not exist. The article shows how to find an optimal control of the form $u(x, t)$ for some cases, which permits synthesizing closed-loop control systems.

 UDC: 62 - 50

ACC NR: AP7004241

Connection of the above problem with the minimum-operating-time problem is explored. Orig. art. has: 6 figures and 63 formulas.

SUB CODE: 09, 12 / SUBM DATE: 08Apr66 / ORIG REF: 005

Card 2/2

L 43705-66 EWT(d)/EWP(v)/EWP(k)/EWP(h)/EWP(1) BC

ACC NR: AP6023663 SOURCE CODE: UR/0103/66/000/004/0057/0068

AUTHOR: Buyakas, V. I. (Moscow)

ORG: none

TITLE: Optimal control of systems with variable structure

SOURCE: Avtomatika i telemekhanika, no. 4, 1966, 57-68

TOPIC TAGS: optimal automatic control, optimal control, automatic control theory

ABSTRACT: The paper deals with the problem of the optimal control of a variable-structure system. The necessary and sufficient condition for the existence of trajectories invariant with respect to control is derived. The existence of two forms of special (in the sense of the principle of the maximum) solutions is demonstrated. The first of these is a linear subspace filled with trajectories which are invariant with respect to control. The second solution is a certain linear subspace which coincides in a particular case with the sliding hyperplane discussed by S. V. Yemel'yanov and V. A. Taran (Ob odnom klasse sistem avtomaticheskogo regulirovaniya s peremennoy strukturoy. Izv. AN SSSR, OTN. Energetika i avtomatika, No. 3, 1962). By way of example, a problem of optimal control of a second-order system and another of the optimal control of a nuclear reactor are considered. In conclusion, the author

Card 1/2 UDC: 62-505

L 43709-65

ACC NR: AP6023663

wishes to express his gratitude to A. M. Letov for his valuable comments and interest in this work. Orig. art. has: 6 figures and 47 formulas.

SUB CODE: 09,12,~~14~~ 13,18 SUBM DATE: 18Jun65/ ORIG REF: 013/ OTH REF: 003

Card 2/2 egm

BUYAKOV, G.N.

BUYAKOV, G.N.

Resolution of a fibrosarcoma of the retroperitoneal cavity following test laparotomy. Nov.khir.arkh. no.3:84 My-Je '57. (MLRA 10:8)

1. Kirovogradskiy oblastnoy onkodispanser
(PERITONEUM--CANCER)

BUYAKOV, G.N., BRODICHEVSKIY, D.A., RABOTNIKOV, V.N., (Kirovograd)

Case of rare anomaly of cardiact development. Vrach.delo no.6:633 Jo '58 (MIRA 11:7)

(HEART--ABNORMITIES AND DEFORMITIES)

BUYAKOVA T. G.

VAYS, S.I.; BUYAKOVA, T.G.

Effect of chemical stimulation of the dental receptors on gastric secretion. Stomatologiia no.4:9-14 Jl-Ag '54. (MLRA 7:9)

1. Iz kafedry normal'noy fiziologii (zav. prof. A.I.Nikitin) i kafedry terapevticheskoy stomatologii (zav. prof. S.I.Vays) Irkutskogo meditsinskogo instituta.

(GASTRIC JUICE,
secretion, eff. of chem. stimulation of teeth in dogs)
(TEETH, physiology,
eff. of chem. stimulation on gastric secretion in dogs)

BUYAKOVA, T. G. and GONCHAROVA, A. A.

"On the Biology of Gamazoidea Ticks Bulaelaps Cricetuli Vitzthum and Bulaelaps Kolpakovai Bregetova in the Conditions of Transbaykal Area."

Tenth Conference on Parsitological Problems and Diseases with Natural Reservoirs, 22-29 October 1959, Vol. II, Publishing House of Academy of Sciences, USSR, Moscow-Leningrad, 1959.

Chita Medical Institute

GONCHAROVA, A.A.; BUYAKOVA, T.G.

Biology of the gamasid mite Haemogamasus mandschuricus Vitzth. in Transbaikalia. Paraz.sbor. 19:155-163 '60.
(MIRA 13:8)

1. Chitinskiy meditsinskiy institut.
(Transbaikalia--Mites)

GONCHAROVA, A.A.; BUYAKOVA, T.G.

Studying mites of the family Haemoganasidae (Parasitiformes, Gamasoidea) in the U.S.S.R. Zool. zhur. 40 no. 2:276-280 F '61. (MIRA 14:2)

1. Medical Institute of Chita.
(Mites)

GONCHAROVA, A.A.; BUYAKOVA, T.G.

Biology of the gamasid mite Eulaelaps cricetuli Vitzthum in Transbaikalia. Zool.zhur. 41 no.1:139-143 Ja '62. (MIRA 15:4)

1. Medical High School of Chita.
(Transbaikalia--Mites)

BUYAKOVA, T.G.; GONCHAROVA, A.A.

New species of mites of the genus Haemogamasus (Parasitoformes, Gamasoidea). Zool. zhur. 41 no.5:760-763 My '62. (MIRA 15:6)

1. Medical Higher School of Chita.
(Chita--Mites)

GONCHAROV, A.A.; BUYAKOVA, T.G.

Method of identifying deutrorymphs of the family Laelaptidae Berlese, 1892 (Parasitiformes, Gamasoidea). Zool zhur. 43 no. 2:277-281 '64. (MIRA 17:6)

BUYANOVA, T.G.; GONCHAROVA, A.A.

New species of gamasid mites (Parasitiformes, Gamasoidea).
Zool. zhur. 43 no.5[illegible] '64 (MIRA 17:8)

1. Chitinskiy meditsinskiy institut.

BUYAKOVICH, N. G.

USSR/Miscellaneous Bird hunting

Card : 1/1

Authors : Buyakovich, N. G.

Title : Arrival and departure near Yakutsk of birds from which industrial products are obtained

Periodical : Priroda, 43/7, 107, July 1954

Abstract : The approximate dates of the annual arrival, near Yakutsk, of twelve species of migratory birds are given and details of their departures are explained. Table.

Institution : ....

Submitted : ....

BUYAKOVICH, N.G.

Review of the collection "The exploitation of natural animal populations". Zool. zhur. 43 no.9:1415-1417 '64.
(MIRA 17:11)

BUYAKOVICH, Z.G.; STARKOV, D.P.

Light-diffusing materials. Plast.massy no.5:74 '60. (MIRA 13:7)
(Plastics) (Electric light fixtures)

BUYALO, K.G.

MOROZ, A.P.; KHIZHINS'KA, O.P.; BUYALO, K.G.

Immunologic reactions and their duration in humans following epicutaneous injection of living tularemia vaccine prepared on egg yolk. Mikrobiol. zhur. 17 no.3:40-45 '55 (MLRA 10:5)

1. Z Kiivs'kogo medichnogo institutu ta Kiivs'koi sposterezhnoi stantsii.
(TULAREMIA, immunology,
vacc., immunol. reactions to living vaccine prep. on egg yolk) (Uk)

BUYALO, S.G.

DYACHENKO, S.S.;KHIZHINS'KA, O.P.;BUYALO, S.G.

Allergic reaction in men following vaccination with living yolk tularemia vaccine in cutaneous application. Mikrobiol. zh., Kiev 15 no.1:27-32 1953. (CIML 25:5)

1. Of the Department of Microbiology of Kiev Medical Institute.

BUYALO, S. G.

DYACHENKO, S.S.; KHIZHINS'KA, O.P.; BUYALO, S.G.

Allergic reaction in man following vaccination with living yolk tularemia vaccine in cutaneous application. Mikrobiol.zhur. 15 no.1:27-32 '53. (MLRA 7:3)

1. Z kafedri mikrobiologii Kiiv'skogo medichnogo institutu.
(Vaccination) (Tularemia) (Allergy)

Cutaneous inoculation with egg-yolk vaccine produces readjustment within a human organism that follows usually the intracutaneous tularin test. The egg-yolk vaccine itself and the mthod of administration creat sensitivity within an organism similar to that created by the transmitted form of tularemia infection. The intracutaneous allergic reaction to the living tularemia vaccine is a specific reaction, because it is positive only in those people who have recuperated from tularemis, those who have been revaccinated, or who have received a cutaneous vaccination. Reinoculation may be resorted to within 2 years, depending on epidemiological needs.

258T21

2349. SLESARENKO V.V. and BUYALO S.G. Republ. Antitular. Station, Kiev, USSR. *Agglutination reaction and allergic reaction in persons revaccinated against tularaemia (Russian text) Z. MIKROBIOL. 1956, no. 9 (44-48) Tables 3

The purpose of this work was the study of the immunological changes which occur in 5 yr. i.e., the interval laid down in the instructions for revaccination. The presence of immunity was determined by the aid of allergic and serological reactions. Investigations on 100 persons showed that at the end of 3 yr. after vaccination the tularin test was positive in 97% of cases; 5 yr. after vaccination antibodies were detected in 45% of cases (average titre 1:9). The above group of persons (5 yr. after vaccination) were vaccinated together with 63 persons not previously vaccinated. A month after vaccination the average titre of agglutinins in the revaccinated group was 1:118 and in the once-vaccinated group 1:62. At the time of revaccination 24% of the vaccinated had lost their immunity, since the local reactions did not bear an allergic character but ran a course similar in type to primary vaccination. After a year the titres of agglutinins in the revaccinated were higher (1:156) than in the primarily vaccinated (1:129); tularin tests were positive in all. General reactions to the inoculation of tularin in the vaccinated group were noted in only a few individuals (6%) but in many (25%) of the revaccinated. Therefore the suggestion is made that allergic tests should be avoided in the revaccinated. The authors consider that revaccination should be carried out at the end of 5 yr. Revaccination evokes considerable immunological reorganization in the body, as a result of which we may expect prolonged maintenance of immunity. This suggests the possibility of lengthening the interval before a 2nd revaccination.

Kaulen - Moscow

[illegible]AI, S. G., MA[illegible], M. P., LIT[illegible]KO, [illegible], [illegible]VA, I. A., ELISARENKO, A. S., ST[illegible]SKAYA, V. M. [illegible], V. V., [illegible]SKAYA, C. P., ADA[illegible]VITCH, V. V.

"On the natural foci of tularemia in the Ukrainian SS[illegible]." p. 1[illegible].

Desyatoye soveshchaniye po parazitologicheskim problemam i prirodnoochagovym boleznyam. 22-29 Oktyabrya 1959 g. (Tenth Conference on Parasitological Problems and Diseases with Natural Foci 22-29 October 1959), Moscow-Leningrad, 1959, Academy of Medical Sciences USSR and Academy of Sciences USSR, No. 1 254pp.

Basin Sanitary-Epidemiology Station, Public Health Min. Uk SSR/Kiev

BUYALO, S.G.

3

L 17971-65 EWT(1)/T/EWA(b) Pa-4 AMD JK
ACCESSION NR: AP5002642 S/0016/64/000/010/0094/0098

AUTHOR: Stupnitskaya, V. M.; Marinov, M. P.; Litvinenko, Ye. F.; Slesarenko, V. V.; Slesarenko, A.S.; Khizhinskaya, O.P.; Stepanova, I. A.; Buyalo, S. G.

TITLE: Natural foci of tularemia in the Ukrainian SSR

SOURCE: Zhurnal mikrobiologii, epidemiologii i immunobiologii, no. 10, 1964, 94-98

41-
B

TOPIC TAGS: bacterial disease, immunology, disease control

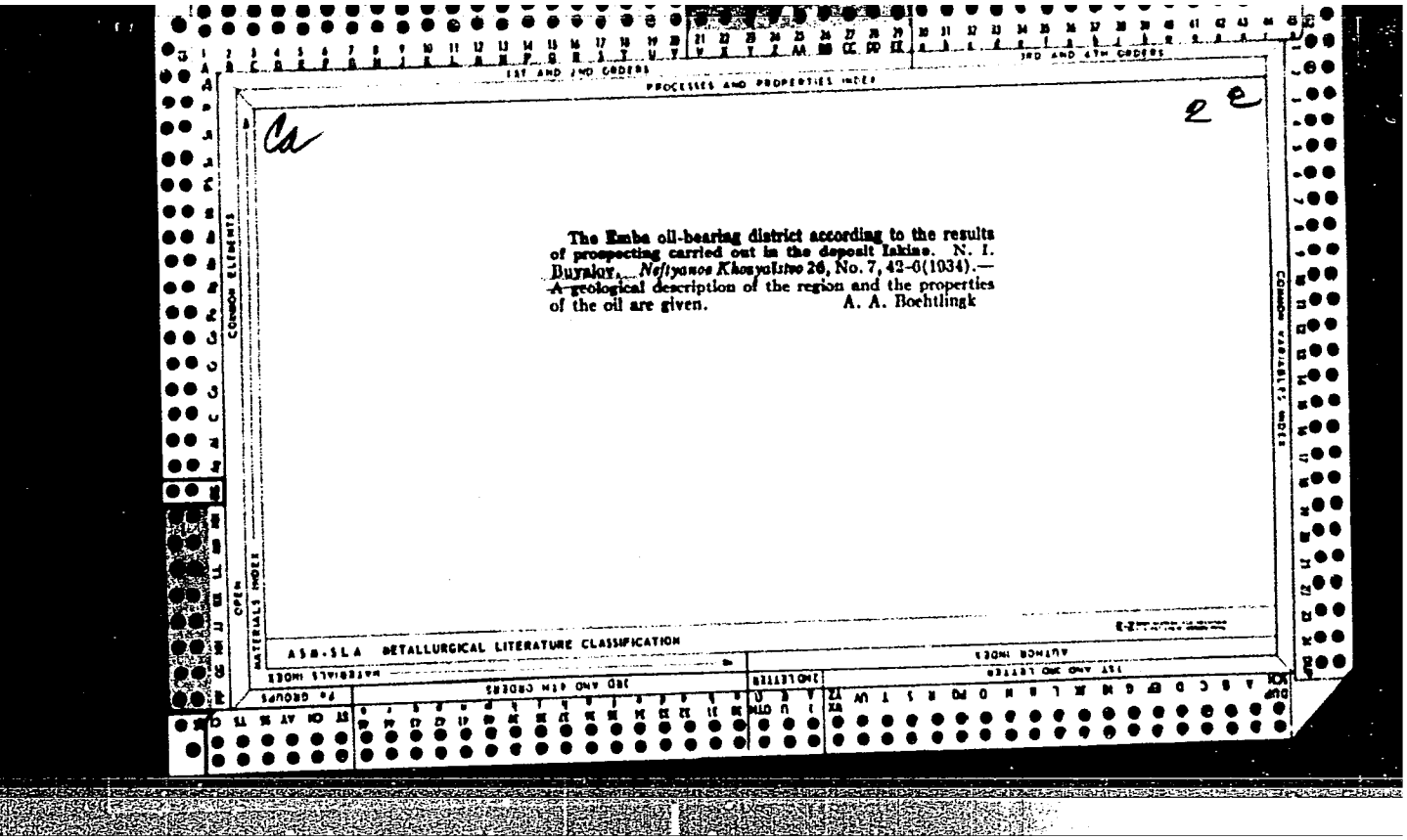
ABSTRACT: Between 1956 and 1962, 265 cultures of the tularemia pathogen were isolated from 350,000 ticks collected in various districts of the Ukrainian SSR. The foci were maintained by several rodent hosts and the disease was carried by Ixode ricinus, Dermacentor pictus, and other blood-sucking insects. The article contains detailed descriptions of the important tularemia foci in the Ukraine and methods of selective vaccination used in control measures. Orig. art. has 2 tables.

ASSOCIATION: Basseynovaya sanitarno-epidemiologicheskaya stantsiya Ministerstva zdravookhraneniya, UkrSSR, Kiev; (Basin Sanitary and Epidemiological Station, Ministry of Health, UkrSSR)

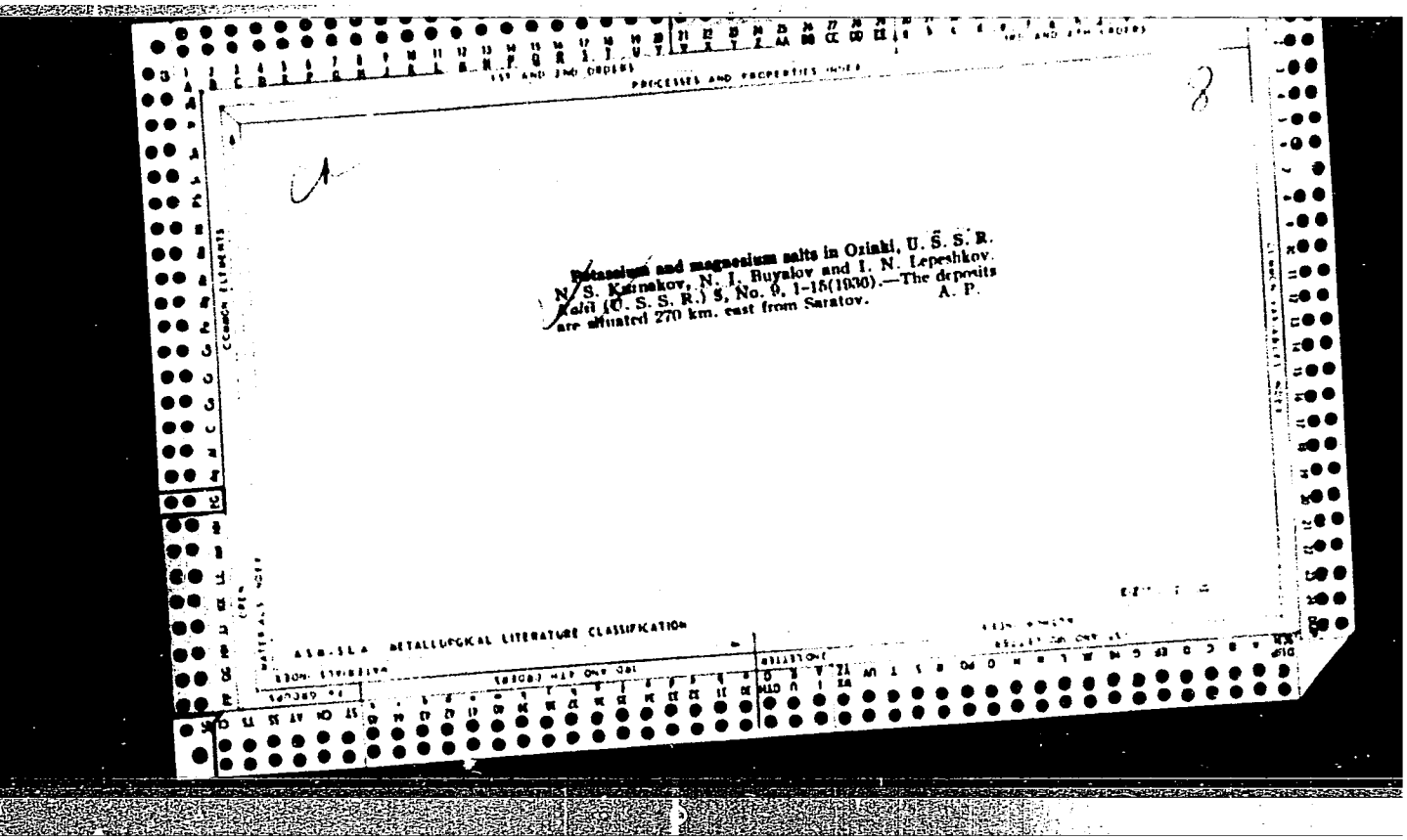
Card 1/2 SUBMITTED - 4 DEC 62

AVROV, V.Ya.; BLINNIKOV, I.A.; BROD, I.O.[deceased]; BUYALOV, N.I.; VASIL'YEV, V.G.; DMITRIYEV, Ye.Ya.; YELIN, N.D.; YEROFEYEV, N.S.; ZUBOV, I.P.; KALININ, N.A.; KUDRYASHOVA, N.M.; MAKSIMOV, S.P.; L'VOV, M.S.; MIRCHINK, M.F.; OVCHINNIKOVA, T.G.; SIMAKOV, S.N.; TROFIMUK, A.A.; TKHOSTOV, B.A.; FEDOTOVA, M.I., ved. red.

[Predicting gas potential of the U.S.S.R.] Prognoz gazonosnosti SSSR. Leningrad, Gostoptekhizdat, 1963. 175 p. (MIRA 17:4)



The Emba oil-bearing district according to the results of prospecting carried out in the deposit Iakina. N. I. Buryakov. *Neftyanoe Khozyaistvo* 26, No. 7, 42-6(1934).—A geological description of the region and the properties of the oil are given. A. A. Boehtlingk



Potassium and magnesium salts in Ozinki, U. S. S. R.
N. S. Kurnakov, N. I. Buyalov and I. N. Lepeshkov.
Kalii (U. S. S. R.) 5, No. 9, 1-15(1930).—The deposits
are situated 270 km. east from Saratov. A. P.

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

CA

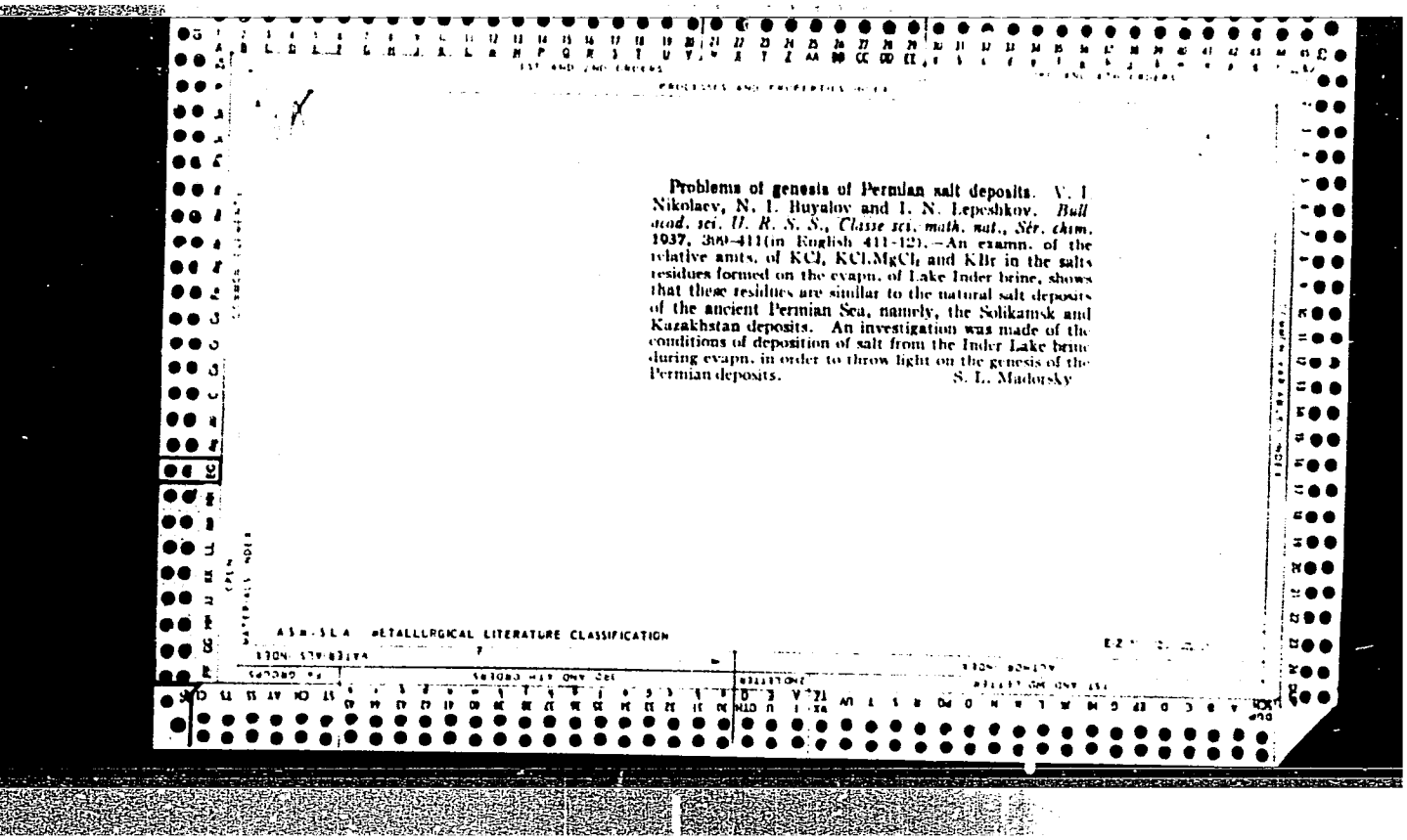
5

Salt domes of the Ural-Emba region, and prospects of their commercial exploitation. N. I. Buyalov and M. G. Valyashko. *Ann. secteur anal. phys.-chim., Inst. chim. gén.* (U. S. S. R.) 9, 335-52(1936); cf. Leuchs, *Kali* 26, 91(1932); *C. A.* 28, 7487[9].—The results of various geol. surveys and phys.-chem. analysis of the numerous salt domes in the Ural-Emba region, situated in the Precaspian lowland, indicate huge resources of *petroleum*, *K*, *borates*, *Mg*, *coal* and *building materials*. Twenty-six references. Chas. Blanc

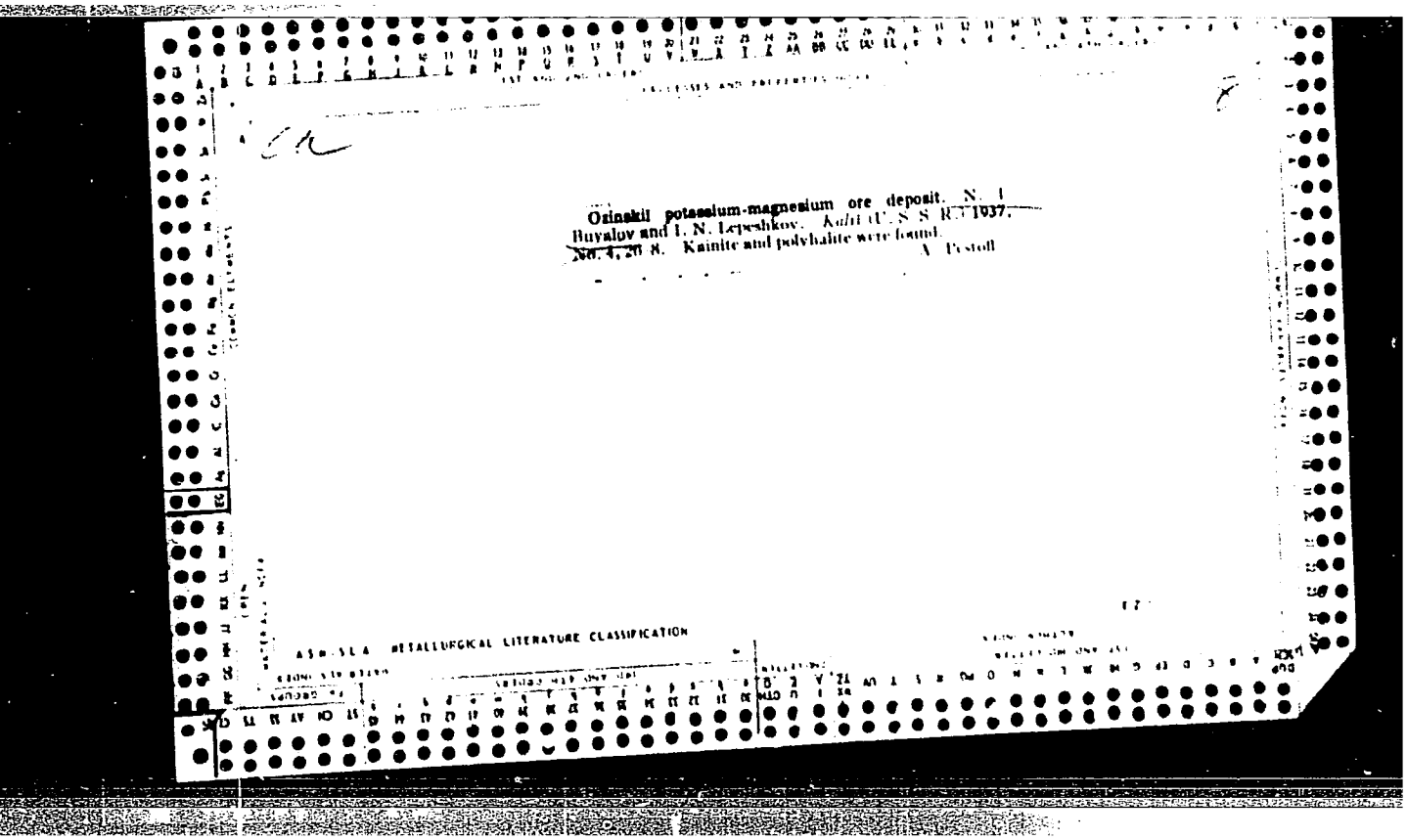
COMMON ELEMENTS

MATERIALS INDEX

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



Problems of genesis of Permian salt deposits. V. I Nikolaev, N. I. Buyalov and I. N. Lepeshkov. *Bull acad. sci. U. R. S. S., Classe sci. math. nat., Sér. chim.* 1937, 369–411(in English 411-12).—An examn. of the relative amts. of KCl, KCl.MgCl$_2$ and KBr in the salts residues formed on the evapn. of Lake Inder brine, shows that these residues are similar to the natural salt deposits of the ancient Permian Sea, namely, the Solikamsk and Kazakhstan deposits. An investigation was made of the conditions of deposition of salt from the Inder Lake brine during evapn. in order to throw light on the genesis of the Permian deposits. S. L. Madorsky



Orinskii potassium-magnesium ore deposit. N. I. Buyalov and I. N. Lepeshkov. Kalii (U.S.S.R.) 1937, No. 4, 20-8. Kainite and polyhalite were found.
A. Pistoll

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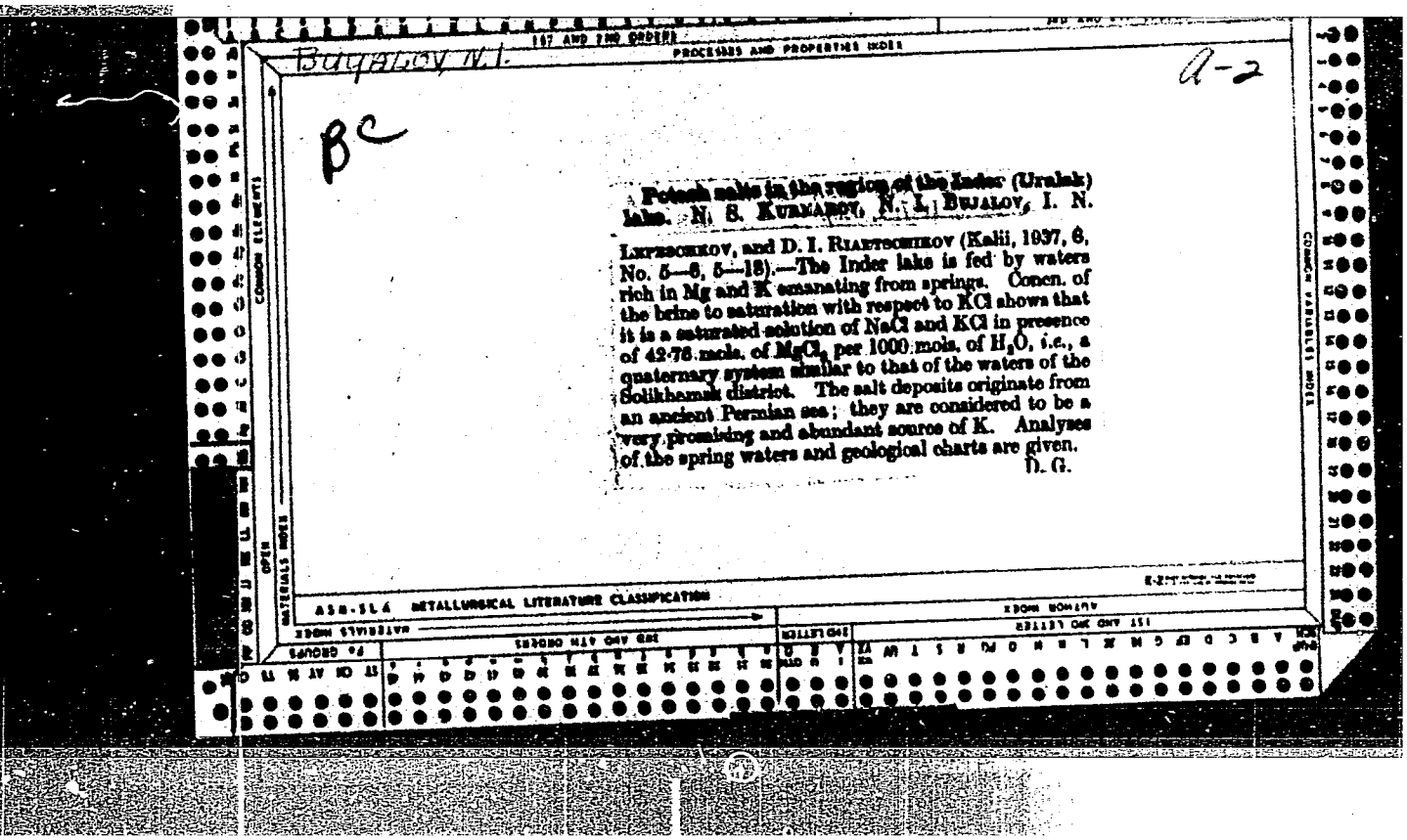


Bugalov N.I.

BC

A-2

Potash salts in the region of the Inder (Uralsk) lakes. N. S. KURNAKOV, N. I. BUJALOV, I. N. LEPESCHKOV, and D. I. RIABTSCHIKOV (Kalii, 1937, 6, No. 5—6, 5—18).—The Inder lake is fed by waters rich in Mg and K emanating from springs. Concn. of the brine to saturation with respect to KCl shows that it is a saturated solution of NaCl and KCl in presence of 42·76 mols. of $MgCl_2$ per 1000 mols. of H_2O, i.e., a quaternary system similar to that of the waters of the Solikhamsk district. The salt deposits originate from an ancient Permian sea; they are considered to be a very promising and abundant source of K. Analyses of the spring waters and geological charts are given.

D. G.

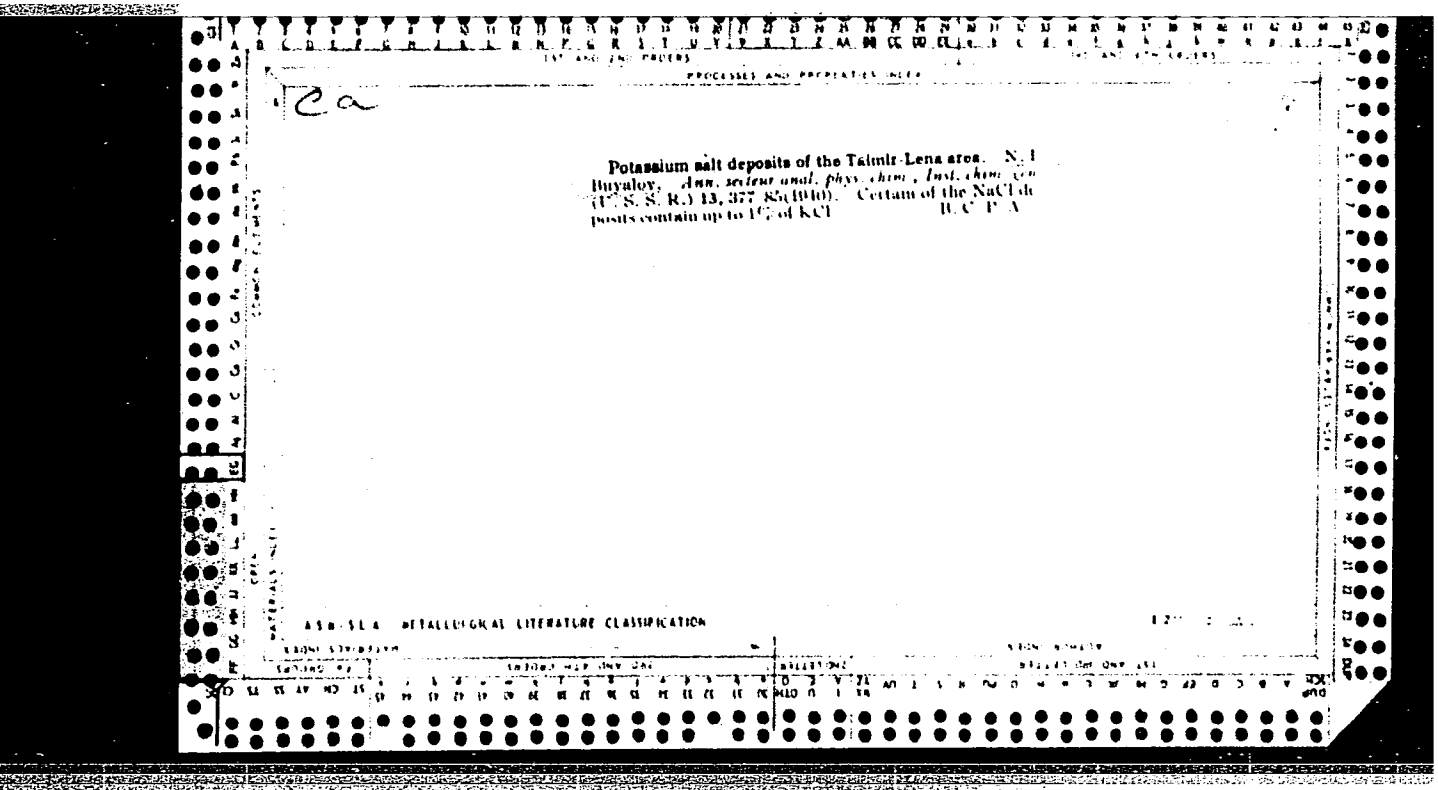
1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

Gypsum problem in the Soviet Union. N. I. Buvalov and A. Ya. Zvorykin. *Ann. secteur anal. phys.-chim., Inst. chim. gén.* (U. R. S. S.) 11, 327-30(1938). A review of the results of a geol. survey in the Western Kazakhstan with a discovery of some 300 complex salt domes and large veins of gypsum and anhydrite with recommendations for the investigation of the geochem. and petrographic properties and com. exploitation of the deposits in the light of American practice with similar deposits in Texas and Louisiana. Chas. Blanc

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



Ca

Potassium salt deposits of the Taimir-Lena area. N. I Buryakov. *Ann. secteur anal. phys.-chim., Inst. chim. gén.* (U. S. S. R.) 13, 377-85(1940). Certain of the NaCl-de posits contain up to 1% of KCl. B. C. P. A.

A S & S L A METALLURGICAL LITERATURE CLASSIFICATION

BUYALOV, N. I.

Experience Gained in the Application of the Method of Complex Geological Survey

The author characterizes the forms and procedure for execution of survey operations as a result of which geological maps are compiled. He states that a rational method of complex surveying considerably shortens the time of mapping, assuming the simultaneous execution of geological, aerological, aerotopographical, hydrogeological, geomorphological, geochemical, geobotanical, and geophysical forms of survey, and also prospecting operations. He describes the possibilities of the aerovisual method of observations, which is employed both for reconnaissance exploration of a territory and for supplementation of the on-ground route observations. Especial attention is paid to hydrogeological, geophysical and geobotanical (geoindicational) methods. (RZhGeol, No. 5, 1955)
Sb. statey Vses. zaoch. politekhn. in-ta, No. 7, 1954, 49-62

SO: Sum. No. 744, 8 Dec 55 - Supplementary Survey of Soviet Scientific Abstracts (17)

BUYALOV, Nikolay Ivanovich, professor; PERSHINA,Ye.G., redaktor; TROFIMOV,A.V., tekhnicheskiy redaktor

[Practical manual on structural geology and geological mapping] Prakticheskoe rukovodstvo po strukturnoi geologii i geologicheskomu kartirovaniiu. Moskva, Gos.nauchno-tekhn.izd-vo neftianoi i gorno-toplivnoi lit-ry, 1955. 252 p. (MIRA 9:1)
(Geology, Structural) (Geology--Maps)

BUYALOV, N.I., SHVYRYAYEVA, A.M.

Geobotanical investigation methods in connection with boron prospecting. Trudy VAGT no.1:135-146 '55. (MLRA 9:11)
(Boron) (Phytogeography)

BUYALOV, N.I., professor; YEREMENKO, N.A., redaktor; PERSHINA, Ye.G., vedushchiy redaktor; POLOSINA, A.S., tekhnicheskiy redaktor

[Structural and field geology] Strukturnaia i polevaia geologiia. Izd. 2-oe, perer. Moskva, Gos. nauchno-tekhn. izd-vo neftianoi i gorno-toplivnoi lit-ry, 1956. 390 p. (MLRA 10:1)
(Geology, Structural)

Buyalov, N. I.

15-57-7-9860

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 7, p 162 (USSR)

AUTHORS: Buyalov, N. I., Shvyryayeva, A. M.

TITLE: Complex Methods of Investigation in Exploring for Boron (Kompleksnyye metody issledovaniy pri poiskakh bora)

PERIODICAL: Sb. statey Vses. zaoch. politekhn. in-ta, 1956, Nr 13, pp 35-48

ABSTRACT: Geological observations were accompanied by a geobotanical survey in prospecting for boron in Western Kazakhstan. It was the purpose of the geobotanical survey to determine the possibility of using the plant cover as an indication of the B content in the soil. Studies were conducted along three lines in the summer of 1954, in areas of known B deposits. These studies included: 1) searches for plants which would constitute

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Complex Methods of Investigation (Cont.)

direct indications of the presence of B in the soil; 2) searches for changes in plants which would constitute direct indications of a high B content in the soil; 3) study of the possibility of using the whole plant cover as an indirect indication of the presence of B in the soil. Since the B minerals differ in chemical composition, and since B in various combinations has a different effect on plants, the plant cover was studied for various types of deposits. The area investigated is a salt dome, well-defined in relief. The center of the dome is covered with a gypsum cap 50 m to 80 m thick, which emerges on the surface, but is covered in places with argillaceous soils up to 6 m thick. The entire territory is characterized by karst formations. Observations were conducted on areas of development of various deposits. These are classed as gypsum, argillaceous, and carbonate, depending on the nature of the admixtures; they are also classed as ulexitic, ascharitic, and hydroboracitic, depending on the boron-containing minerals. The work resulted in the following conclusions: 1) the studies to find plants which would act as direct

Complex Methods of Investigation (Cont.)

indications of the presence of B have thus far not given positive results; 2) the plant cover as a whole may be used as an indirect indication of the boron potential of rock of specific lithologic composition; 3) the nature and degree of action of B on plants depend on the content of B in the substratum; 4) the vegetation is luxurious where the B content is only a few hundredths of a percent, while vegetation is completely absent in sectors with a high B content; high concentrations are tolerated only by saltwort and bush statice; 5) with an increase in B content of the soil, the following succession of plant associations occur: white wormwood (Artemisia), bush statice and saltwort; 6) deposits of B in saline clays are characterized by growth of saltwort; ascharitic-carbonate deposits are characterized by growth of eurotia caratoides; the latter serves as an indication of the sulfate-carbonate salt content of the soil. The enumerated geobotanical prospecting criteria were used to determine the boron potential of areas not previously explored. The area studied was a salt dome structure located 100 km

Complex Methods of Investigation (Cont.)

to the south of the area of boron deposits where the present conclusions were drawn. Results obtained with the geobotanical method on the new area agreed fully with the results of spectral analysis.

Z. A. Makayeva

Card 4/4

BUYALOV, Nikolay Ivanovich, professor; KAZAKOV, M.P., professor, doktor geologo-mineralogicheskikh nauk, retsenzent; EBKHAR, Yu.Z., vedushchiy redaktor; POLOSINA, A.S., tekhnicheskiy redaktor

[Structural geology] Strukturnaia geologiia. Moskva, Gos.nauchno-tekhn. izd-vo neft. i gorno-toplivnoi lit-ry, 1957. 279 p.
(Geology, Structural) (MLRA 10:10)

BUYALOV, N.I.; KEL'BEL', G.A. (Germanskaya Demokraticheskaya Respublika).

Oil- and gas-bearing prospects of mineral resources in the German Democratic Republic. Geol. nefti 1 no.1:64-73 Ja '57. (MLRA 10:8)
(Germany, East--Petroleum geology)
(Germany, East--Gas, Natural--Geology)

BUYALOV, N. I. (Moscow)

"Die Wichtigsten Erfolge der Erdölgeologie in der UdSSR,"
Bergakademie , No. 1, ~~199~~ 1958.

(5) SOV/9-59-2-16/16

AUTHOR: Buyalov, N.

TITLE: The Conference of the Carpathian-Balkan Association (S"yezd Karpato-Balkanskoy assotsiatsii)

PERIODICAL: Geologiya nefti i gaza, 1959, Nr 2, pp 71-73 (USSR)

ABSTRACT: The fourth meeting of the Carpathian-Balkan Association of the International Geological Congress took place at Kiyev and L'vov from September 16 to 29, 1958. The Meeting was attended by delegates from Bulgaria, Hungary, Poland, Rumania, the Soviet Union and Czechoslovakia. The Meeting was opened by Doctor M. Magel , head of the Czechoslovak delegation. Introductory reports were delivered by Ye.K. Lazarenko, Chairman of the Meeting, Corresponding Member of the AS UkrSSR, P.S. Senin, Vice President of the Council of Ministers of the UkrSSR, G.I. Arkad'yev, Deputy-President of the Kiyev Gorispolkom. The Meeting heard the following reports: Academician O.S. Vyalov, USSR, on "Tectonics of Soviet East Carpathian Mountains"; M.Magel , A. Matejka, P. Zoubek and T. Budaj (Czechoslovakia) on"The Geological Structure of West Carpathian Mountains"; Ye.S. Bonchev (Bulgaria) on "Tectonic

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Correlations of South Carpathian Mountains and the Balkanides"; F. Szentes (Hungary) on "A Tectonic Map of Hungary"; D. Patrulius, I. Motaș, M. Bleahu on "The Maramureș Geological Structure"; Professor M. Książkiewicz, Doctor of Geology (Poland) on "The Development of Geological Study of the Western Part of the Carpathian Mountains"; Ye.K. Lazarenko (USSR) on "Basic Regularities in the Distribution and Formation of Minerals in Soviet East Carpathian Mountains"; Academician V.B. Porfir'yev on "The Present Stage of Studies on the Origin of Oil"; Professor N.R. Ladyzhenskiy, Doctor of Geological-Mineralogical Sciences, on "Problems of Oil and Gas Bearing Properties of Soviet East Carpathian Mountains";Academician E. Kardos -Sadecki (Hungary), on "Problems of Volcanic Carpathian Mountains in the Light of the New Classification of Igneous Rocks"; Professor Dan Giușca (Rumania) on"The Development of Volcanism in the Baya-Mare Region"; Professor V.I. Slavin on "Basic Problems of the Stratigraphy of the Soviet East Carpathian Mountains"; Doctor I. Shvagrovsky (Czechoslovakia) on "Neogene of East Slovakia" Professor N.B. Vasojević on "Basic Problems of Flysch Formation"; L.Körösi (Hungary) on "Flysch Formation

in the Great Hungarian Plain". The reports were followed by a discussion in which 23 members of the Meeting participated, including Academician D.V. Nalivkin; M.I. Varentsev, Corresponding Member of the USSR AS; Professor Filipescu Academician B. Karaos -Sadecki Professor Ye.Bonchev; Professor V.Ye. Khain; Professor V.I. Slavin and others. The closing conferences took place at L'vov and a resolution was passed relating to the organization of work in accordance with stratigraphical systems, tectonics, etc; coordination of prospecting work, organization of permanent commissions on various problems of stratigraphy, tectonics, metallogeny, etc. The next Meeting of the Association was fixed to take place in 1961 at Bucharest.

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